THE FARM INDEX

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Whither the Miller?

also in this issue:

Making It in Mink
Can the Family Farm Compete?
Bogotá and Brasília:
Farm Policy Problems
Our Menu's Metamorphosis

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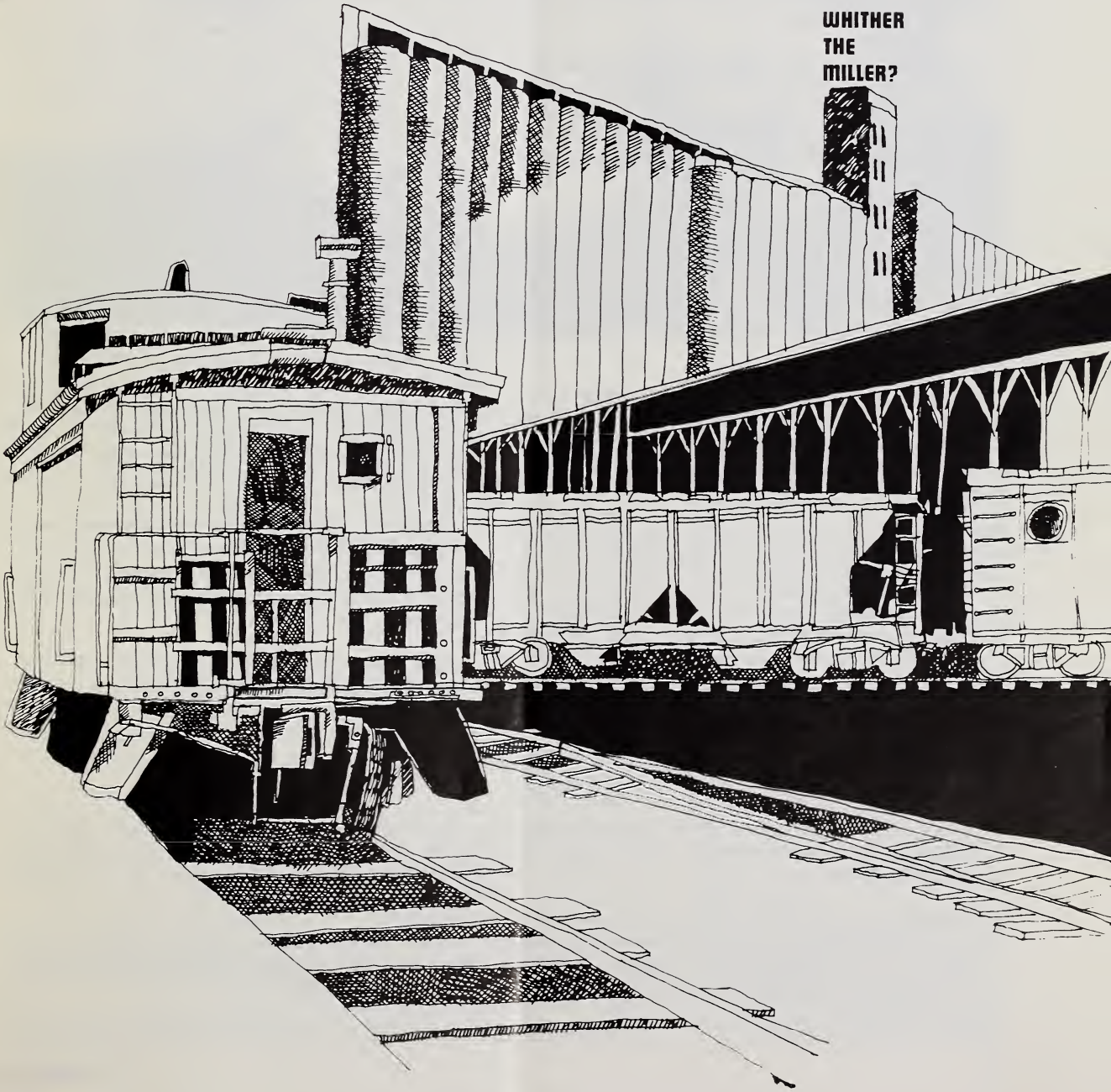


THE AGRICULTURAL OUTLOOK

Another record crop? Growers' intentions to plant around 1 million acres more than in 1968 point to another boost in total crop output this year. Higher yields of many different crops, given normal weather, are also expected to contribute to 1969 total.

Matching quarters. First quarter realized net farm income in 1969 equalled the fourth quarter 1968 rate of $14.8 billion. Reason: Rising production costs counterbalanced a big increase in cash receipts. However, the first quarter rate was still over first quarter 1968.

Livestock boosts farm price average. Through early May farm prices were running roughly 4 percent higher than 1968. Livestock and livestock product prices were up nearly 9 percent, but crop prices were 2 percent under a year earlier.

Beef demand strong. Beef output 1969 is expected to be up slightly, thanks to prospects of larger fed cattle marketings. And prices are likely to stay above year-earlier levels in coming months.

Spotlighting the hog. Pork production—about 5 percent larger than a year earlier—is expected to continue up. April producer prices averaged about $1 per 100 pounds over the previous year. But prices may end the year near 1968 levels in response to larger pork supplies, stiff competition from other meats, and some softening in the demand for all meats.

Broiler production up, price up. Early 1969 broiler output was up around 7 percent and spring prospects pointed to an even larger gain. Thus, broiler prices may come under pressure although they averaged above a year earlier in January-March.

Turkeys on the fence. First quarter prices were up a tenth over a year earlier but in second half they may average close to second half 1968 —especially if producers follow through on plans to boost output 3 percent during the main marketing season.

Egg lag lifts prices. Egg output probably will stay under last year until late 1969. But first quarter prices averaged almost one-third above a year earlier. And they'll probably stay above corresponding 1968 prices until fall.

U.S. farmers take up feed grain slack. Expanding domestic demand for feed grains is more than offsetting export declines. Representing the bulk of the increase during October-March, corn use—at 2.5 billion bushels—was up 6 percent over a year earlier. Lower total feed grain carryover and acreage intentions indicating a 1969 crop slightly larger than 1968's, would leave supplies at the beginning of the 1969/70 marketing year about the same as a year earlier.

Wheat surplus growing. Although use in the U.S. is definitely up, sharply curtailed exports have caused a substantial rise in stocks. The July 1 carryover to begin the season will be up 250 million bushels from a year ago. Even with the 1969 wheat crop expected to be 8 percent below last year, total supplies for 1969/70 are likely to be larger than the previous year.

Soybean stocks up. Though total soybean use is expanding slightly, the crop was up more and carryover is expected to be up sharply. Planting intentions point to a 1.1 billion bushel crop this year, about the same as last.

Cotton consumption down. Reduction in U.S. use and in exports have brought total use of cotton in 1968/69 just under the 1968 crop of around 11 million bales. Result: August carryover may be slightly above last year's 6½ million bales.

Fruit supplies up. Fruit supplies are considerably larger this season and prices generally lower than a year earlier, except for processed citrus and fresh apples.

Fresh vegetables, too. Spring supplies were about as large as last year with prices slightly under those of 1968.

making it in mink

Here's a farm enterprise that is grossing more money in Minnesota than sales of sheep or lambs. It's raising the furry favorite of misses and matrons: ranch mink.

Offer all Minnesota ranchers a penny for their thoughts and at least 425 of them will have mink on their minds.

Minnesota mink ranchers (outranked only by Wisconsin in the mink ranch business) marketed 1,147,300 pelts in 1967 from their previous year's crop.

At a national average price of $14.00 a pelt, the sales figure was over $16 million—more, incidentally, than the gross sales of sheep and lambs in the Gopher State.

Actually, mink receipts were probably higher than this estimate because the quality and color of Minnesota minks consistently bring higher-than-average prices.

Minnesota had about 425 mink ranches in 1966. Production per ranch thus averaged out to 2,700 pelts and gross sales to $37,800 —using the conservative national average price per pelt.

An increase of 8 percent in Minnesota's pelt production since 1959, compared with a 5-percent nationwide increase, reflects the growing emphasis on mink production in the Upper Midwest.

The five States—Wisconsin, Minnesota, Ohio, Illinois, and Michigan—had 56.5 percent of national production in 1966. Their importance is increasing at the expense of Pacific Northwest and Northeast domestic mink producing areas.

Since feed costs make up over one-half the total cost of a pelt, the year-round availability of fresh, low-cost feed is an important factor in ranch location.

The bulk of mink feed consists of fish, meat byproducts, and cereal. Many Minnesota mink ranchers have no problem getting cereal from several sources at competitive prices, but fresh fish and meat byproducts in large quantities are not available statewide.

Thus, mink ranching is concentrated in the south central and north-northwest portions of the State where fresh meat and fish are more plentiful.

In adding up their feed costs, mink ranchers figure that a breeder male eats about 200 pounds of feed per year and services about 5 females. Each breeder female eats about 130 pounds, and each kit about 88 pounds of feed from birth to pelting. Using a 4-kit per female average (mink give birth only once a year) and figuring feed at 6 cents per pound, it cost $7.83 to feed the average Minnesota ranch mink in 1966.

Total feed receipts for the 1966 mink crop in Minnesota came to about $9 million.

Labor costs are tougher to compute since most ranches are part-time or family operations. Extra

labor is hired only during the breeding and pelting seasons.

In 1966 the Minnesota mink ranchers paid out an estimated $3 million in wages to their hired workers.

Subtracting these and other costs, the State's mink ranchers probably netted around $6,000 per ranch.

Almost all U.S. mink (about 90 percent) are marketed by two large cooperatives representing individual ranchers. These are the Mutation Mink Breeders Association (EMBA) and the Great Lakes Mink Assoc. (GLMA).

Five main auction houses handle most of the skin sales: The New York Auction Company in New York City and Minneapolis, Hudson Bay Company Fur Sales in New York City, Seattle Fur Exchange, and Ranchers Fur Auctions Co-op in Milwaukee.

Only about 6 to 7 percent of the pelts move through dealers and brokers or by direct sales off the ranches.

The chief marketing costs are for transportation, commission, and dressing, if mink are sold dressed. Since most mink are sold and dressed in New York, however, these marketing expenses are not a factor in the Minnesota economy.

There have been two major price declines in the mink industry within 10 years. One, in 1961, was a drop in pelt price of about 15 percent and another, in 1967, saw a 25-percent dip in price per pelt.

The national average price for mink skins now is about 40 percent below the average level of the 1950's.

This reflects several trends which seemed to culminate with the 1966 crop:

—Getting started in the mink ranching industry is relatively easy.

—Entry is made even easier by the availability of ready-mix feeds from nearby suppliers.

—The high rate of return to mink ranchers (11.3 percent to 15.7 percent of gross sales) stimulated excessive production even after the 1961 price drop of around 15 percent.

—High world production of mink resulted in substantial unsold inventories in 1966.

—World demand for mink slackened.

The mink market has strengthened somewhat since 1966. And improved prospects for the 1968 crop (being marketed this year) indicate a more stable price structure. (*1*)

Living Color

Today's mink can go platinum, gunmetal, or violet—and her pelt dresser knows it's for real.

Scientific mutation through selective breeding has changed the appearance and upgraded the quality of mink crops just as it has for many other crops.

It's quite natural now for mink to come in at least a dozen shades and colors. The trade classifies them into three broad groups:

There's the Standard Group (Standards Darks, Other Darks, Pastels, and Pale Brown). About two-thirds of our U.S. mink remain in this group. Pastels have been declining somewhat, but this downtrend has been partially offset by increases in the Standard Darks.

The Blue Color group (Sapphire, Gunmetal, and Platinum) are the oldest mutation group. But they've all declined in numbers and are losing out in the fashion world to "high shades."

The High Shade group (Lavender-Hope, Pearl, White, and Violet—alias Winter Blue) are the newer lighter colored mutations. Production of these has been gaining. Not only do they bring higher prices in the fashion world, but there's also more breeding stock available now.

Ranch-raised minks account for the bulk of U.S. pelt usage—which has nearly doubled every 10 years since the start of commercial mink ranches in the 1930's.

In 1967 we used 10.2 million mink furskins (imports minus exports included). Both imports and exports increased about 3.5 percent annually from 1963-67.

Most of our U.S. wild mink are exported, along with higher grade pelts of "tame" that are used in high quality apparel.

The major export market for undressed U.S. furskins consists of the European Economic Community, Canada, the United Kingdom, and Switzerland. Major customers abroad for dressed pelts include the above countries plus Spain and Hong Kong.

The mink pelts we import sell at a lower average price than those we produce at home. Most of our imports are standard colors from Scandinavia that are used in lower grade garments and the trimming trade. (*1*)

Crop Drying: Farmers Use Gas, Oil, Other Fuels To Get Wet Out

Some farmers worry about how fast they can harvest their crops. Many successful farmers today worry about how fast they can dry them.

Until 1949, when commercially practical portable driers were introduced on a large scale, farmers relied almost entirely on sunshine and natural airflow to dry their crops.

Field drying, corn cribs (introduced by the American Indians), and other structures permitting natural circulation of air were, and still are, common.

But since these methods offer the farmer little or no control over the drying process, he often suffers losses in quantity and quality of product.

The need for more controlled drying, the larger size of the average farm, higher yields per acre, the ability of machines to harvest crops rapidly, and the change from storing ear corn to storing shelled corn, all have combined to expand the practice of artificially drying crops.

As late as 1956 only 3 percent of the corn for grain was field shelled—harvested off the cob—and about an equal percentage was farm dried artificially—that is, through the use of heated or

unheated air blown in mechanically.

But by 1964, almost 32 percent of all grain corn was field shelled, and by 1966, 50 percent. Similarly, 17 percent of grain corn was artificially dried in 1964 and by 1966, 27 percent.

Six major crops in addition to corn—soybeans, sorghum grain, tobacco, peanuts, rice, and hay—are the most important ones dried artificially.

In 1966, farmers in the 48 contiguous States used over 303 million gallons of fuel oil, kerosene, LP-gas, and other liquid petroleum fuels to dry these seven crops. Only 191 million gallons of fuel were used for drying them in 1953.

About 69 percent of the liquid petroleum fuel used in 1966 was LP-gas, compared with only 8 percent of the total in 1953.

Corn drying and tobacco curing shared top honors for use of liquid perolteum fuel in 1966. Each took about equal amounts. And corn and tobacco together accounted for 95 percent of all fuel used for crop drying.

Forty-two percent of the nearly 2 billion pounds of tobacco produced that year was artificially cured by heat from liquid petroleum fuel.

Sixty-three percent of the 1966 peanut output was artificially dried.

Only 3 percent of that year's total soybean production went through an artificial drying process, but liquid petroleum fuel provided the heat to dry nearly half of the beans dried.

Farmers and custom dryers artificially dried only 10 percent of the sorghum grain output, but LP-gas was used exclusively.

Though 73 percent of the rice crop was artificially dried in 1966, liquid petroleum fuels were used for less than one-quarter of the farm dried rice.

Only about 2 percent, or 2.5 million tons, of hay was artificially dried. (*2*)

Men and Milestones

DEDICATED TO SAVING OUR SOILS

The World War I wheat and cotton boom bursts. Rain washes away topsoil and gullies fields. Dry years take their toll. Billowing dust clouds rise to hide the midday sun. In 1928, the now classic exposé "Soil Erosion a National Menace" is published by the Department of Agriculture. The author: erosion specialist Hugh Hammond Bennett. Later, Bennett helps make soil conservation a science, is a founder of the Soil Conservation Society of America.

* * *

For years soil scientists looked mainly to chemicals for answers to soil fertility problems. Erosion was often ignored.

But Hugh Hammond Bennett, as a soil surveyor with the USDA's Bureau of Soils, had seen eroded fields first hand in earlier days of his career. He was among the first to recognize sheet erosion.

Publication of his soil erosion bulletin has been regarded as the turning point in the fight for recognition of this problem.

In 1933 Bennett went to the Department of the Interior as head of its Soil Erosion Service. Later, this work was transferred to the USDA and the Soil Conservation Service was established to handle it.

Bennett continued as head, applying his conservation principles on a larger scale. Under his leadership the Nation was organized into Soil Conservation Districts.

Farmers in each district joined forces to combat local soil problems. Their weapons included strip cropping, terracing, drainage, crop rotation, contour cultivation, fertilization, pasture improvement, controlled grazing, and woodland and wildlife plantings.

The results of Bennett's work are reflected today throughout America. (*3*)

Can the Family Farm Compete?

Is one man's family able to run a farm big enough to succeed in modern agriculture? Apparently yes—since family farming is still a going and growing institution.

The family farm has a proud past. It's been the institution under which U.S. agriculture has moved from the subsistence level of the Indians to the superabundance of today.

But what of the present? Can the owners of a family farm acquire the vast amounts of capital needed to compete in modern farming? Do they have the technical know-how, the managerial talent to run modern farms, which are looking more and more like big businesses?

Or has the family farm outlived its time? Is it an anachronism in today's world, destined for extinction in tomorrow's?

Many who question the viability of family farming in modern times equate it with small-scale farming. And there is little doubt that small-scale farms will be subjected to increasing economic pressure.

But family farms are often far from small. Machinery and other capital investments have greatly multiplied the outreach of a farm family's labor. Thus, family farms can become quite large, but they remain family farms in the sense that the family still provides most of the management and more than half the labor.

Family farms dominate the U.S. agricultural scene. They accounted for 95 percent of all farms in 1964—the same proportion as in 1949.

This does not mean, however, that there are as many family farms now as there once were. Since 1949, farm numbers have declined and family farms have shared in the drop. Their numbers may shrink even more in the years ahead, as the trend to fewer but larger farms continues.

Family farms which cannot

grow up to a profitable size and those managed by ineffective operators will continue to be absorbed into large units or be converted into part-time or retirement enterprises.

Gross annual sales of $10,000 have been used in the past by ERS economists as the dividing line between adequate and inadequate family farms—and consequently the dividing line between the expanding and contracting sectors of family farming.

But the $10,000 dividing line may be out of date. One ERS study showed that cash-grain and hog farms in Illinois, projected for expected conditions in 1970, would not begin to yield a management return until gross income reached about $20,000 annually.

In fact, it may take gross sales of $40,000 or more to yield the labor and management earnings needed to hold talented farm family members whose skills are also prized in the nonfarm labor market.

How many family farms can reach this size—$40,000 or more in gross sales annually? Certainly not all those that are farming today. But a number have already topped this mark.

Large, family-run cash-grain operations in Illinois approached $100,000 in sales in 1967, while many hog and beef cattle farms had gross sales well in excess of $100,000.

It takes good, if not superior, management to operate a farm of this size. It means the family members must be wise in the ways of financial planning and capital utilization. It often means forsaking the once major goal of full ownership of all resources, relying instead on borrowed capital and rented land and other resources.

With the rapid technological advances in food processing and distribution, operators of family farms must gear up for quality control. They must know market requirements and find ways of producing, timing, sorting, assembling, and transporting products as effectively as can any alternative producing firm.

The family farm of tomorrow will be larger, in all respects, than the family farm of today. It may combine the labor of several families—to spread the growing management responsibilities and work load, to provide needed individual specialization, to reduce the dangers inherent in complete dependence upon one man, and to leave time for leisure for each family member.

But whatever the family farm becomes in the future, it certainly will not become extinct. Its No. 1 position in U.S. agriculture may even be strengthened by continued mechanization, and perhaps more so through input-service packages that embody added labor and management as well as material production needs. (4)

Summer Vacations Are Out For Farmers; July Is Busiest Month

The sun apparently never sets on U.S. farms in July.

To get the farm chores done next month—busiest of many a farmer's year—will take an average of 746 hours work by family and hired help. That's the equivalent of 31 round-the-clock working days for one person.

These figures emerged from a recent ERS study of farm labor inputs. The data collected relate to 1964 operations. Labor inputs have been declining over the years, thus monthly labor requirements may have shrunk a bit since then. But the relationships between peaks of labor input, farm size, and farm type are still valid.

Here are some of the study highlights:

—Operators of farms with sales of less than $20,000 a year put in more hours of farm labor during July than during any other month of the year.

On farms with sales of $20,000 to $499,999, farmwork demanded more of the operators' time during May. September was the peak labor month for operators of farms with sales over $500,000.

Less labor was required in February than in any other month of the year, regardless of farm size. Fewer hours of work are required on most farms in February than in any other month.

—During the low month, operators of the smallest farms (those with sales of $2,500 to $4,999) worked only about 90 hours on the farm, while operators of the largest farms put in more than twice as much time. Thus, operators of the largest farms had a full-time farm job even in their slowest month. Operators of small farms, however, may have had some off-farm employment to occupy their time during periods of low farm employment.

—During the peak labor months for the smallest and the largest farms studied, operators of small farms put in an average of 199 hours of farm labor; operators of the largest farms, 239 hours.

The small-scale operators, in other words, had to devote twice as much time to their farm enterprises in the peak month than they did in the low month, while the operators of the largest farms increased their labor input by only a fourth.

—During February, total hired labor requirements ranged from an average of 16 hours on the smallest farms to 4,463 hours on the largest farms. During the peak labor month for these farms, the small farms required more than 12 times as much hired labor, while the largest farms' labor needs were not quite doubled.

—For farms with sales of up to $20,000 a year, the operators themselves chalked up more

worktime than hired laborers, even in the peak month. On farms with sales of over $40,000, however, hired employees put in more hours than the operator, even during February.

—Family and regular hired labor use increased steadily from February to July, going up about 100 and 50 percent, respectively.

Seasonal hired labor use, of course, went up much more during the February-July period, rising from an average of 4 hours to 176 hours—or from 1 to 24 percent of the total monthly labor inputs. (*5*)

Barebones Budgets Are a Rule In Towns With Population Losses

There is a delicate balance between the size of a city and its community services.

And it can be tossed out of kilter if the city's growth patterns change markedly one way or another, and services can't be weighted accordingly.

Public financial planners rely on projections of current trends to determine probable needs of the future. But this approach isn't adequate for cities with accelerated rates of growth or decline.

ERS economists have examined and diagnosed some of the shifts that take place in local government spending, revenues, and debt following major population changes.

Their study compares two sets of cities, each with a 1950 population of 25,000 to 50,000 and each outside Standard Metropolitan Statistical Areas. One set lost population between 1950 and 1960; the other grew anywhere from 33 to 99 percent in the same period.

Spending. The growing cities committed more of their total budgets to capital over the 10-year period; declining cities' budgets went for immediate municipal needs.

Growing cities were able to spend a greater proportion of their money for health services and recreation. Police and fire protection and highway maintenance took most of the budget for declining cities.

Revenue. Growth areas relied less on tax revenue than declining areas, though both groups of cities lowered their reliance on taxes during the study period.

The declining cities did rely more heavily on property taxes to produce revenue, however, while growing cities received a greater share of their revenues from service charges and miscellaneous revenue.

Intergovernmental revenues remained nearly constant during the study period.

Debt. Growth cities appeared more likely to use revenue bonds and incur long-term debts. Declining areas alloted an increasingly large share of their budget to meet interest payments, and relied more on short term debts. (*6*)

Who Are the Poor?

Aged. Disabled. Uneducated. These words often connote another word: Poor.

How great an impact these poverty-linked characteristics can have on family incomes was demonstrated recently in an ERS survey of 1,413 rural households in the Ozarks.

Considering only the factor of age, for example, family incomes were at their highest when the household head was about 51 years old. As the main breadwinner got older, his income started dropping. When he was 61, his income averaged about $100 less than peak earnings of $2,583.

In families where the household head was totally disabled, annual incomes were $481 less than when the head reported no physical disability. It was $411 less when the breadwinner was partially disabled.

When the household head had only 4 years of education, family incomes were about $456 less than when the head had finished all eight grades of school. However, in families where the major breadwinner had a high school diploma, incomes topped the eighth graders' by $765.

Annual incomes for the farm households were about $741 less than incomes in the families classified rural nonfarm.

More than one breadwinner was a big plus factor in the size of family incomes. Compared with families where there was only one, those with two received an additional $922 annually; those with three or more earned an extra $1,158. (*7*)

Nonfarmers Who Fancy Rural Life Buy Up Land To Farm Part-Time

You can't always tell a farmer by his occupation.

Business suits and industrial coveralls cover up many a man who longs for his own truck garden, strawberry bed, or cattle corral.

Nonfarm folks of all ages and in all walks of life are often would-be farmers. And a good many seem to be making their dreams come true—at least on a part-time basis.

Of farmland sales of 10 acres or more in 1967, 14 percent were operated as part-time farms after sale. Nonfarm buyers purchased nearly half these part-time farms; absentee owners about a fourth; and farmers who were phasing out full-time operations bought the rest.

Part-time farmers were generally in the market for tracts of land smaller than 100 acres. Since many wanted a rural residence, the tracts frequently included a dwelling and other buildings.

The part-timers paid about as much per acre as did full-time farmers for add-on units. But unlike the farm enlargement buyers, many part-timers stressed the land's location and beauty more than its quality. (*8*)

WHITHER THE MILLER?

With today's rates for shipping wheat and flour, it's more economical to locate mills near consumer centers. An ERS study maps the possible patterns of relocation.

At one time a company could ship wheat or flour all around the country by train and pay the same rate for either. And the railroads even threw in stopovers for milling or storage without any extra charge.

So, mills lined themselves up along the railroad tracks in and near the major wheat producing areas. That way they were well situated for in-transit milling and could also sell their millfeed to near-at-hand livestock producers.

And that's the way it was until improved highways and inland waterways came along. While they were in the making, rail rates zoomed up after World War II, in response to rising labor and operating costs.

Soon, trucks and barges, independently or together, began to compete for the wheat moving to Gulf ports and to new mills nearer southeastern population centers.

By the end of the 1950's, the old, railway-oriented patterns of milling and flour shipment had been severely disrupted.

But it wasn't until 1963 that the railroads gained Interstate Commerce Commission approval to brush up their century-old package of rates and services.

One line brought on modern equipment and abolished those free, in-transit stops. It also lowered rates for moving wheat—since it was less perishable and easier to handle than flour. Since then other railroads have followed suit.

Lower freight rates for wheat than flour put many flour mills in an uneconomic situation, since they're located near wheat producing areas and shipping flour out. When it costs less to ship wheat than flour, it's more economical to mill it at the consumer end of the line.

Today, the West North Central Region of the country has 40 percent of the Nation's milling capacity.

The North Atlantic, East North Central, and Pacific Regions each have an additional 10 to 15 percent.

The remaining capacity is dis-

tributed evenly among the other four regions of the country.

Using a model of the wheat/flour economy, ERS economists projected the likely geographic distribution of milling under the new rate structure.

The West North Central Region would mill only 20 percent of the Nation's flour—half of its share of existing capacity.

Four regions would handle a greater share of the Nation's milling. And the North Atlantic and South Atlantic Regions would have to build new mills.

In terms of new mills, the 30 million hundredweight deficit capacity in the North and South Atlantic Regions (see table) adds up to about 20 small (4,000 cwt. per day) mills.

Whatever changes the new rate structure brings to the milling industry, they won't come soon.

First of all there's the problem of the existing mills. A company with a mill in a production area that ships flour to the North or South Atlantic Region will have to find a new outlet for that mill if it builds a new one near the eastern market.

And how can mills in urban areas dispose of their millfeed—a byproduct of the milling process?

They may compromise and relocate in an intermediate location where they can capture most of the benefits of lower rates for wheat and still avoid much backhauling of millfeed to areas with livestock.

What will the price impact be for producers and consumers?

Economists used prices at the port of Houston as a base for their analysis of this question.

—In wheat surplus areas, producers will get more for their wheat than before because of the lower charges for shipping it out. Consumers will pay more for flour, since it's made from higher priced wheat.

—In wheat deficit areas, producers will get a little less for their wheat because it will have to compete with wheat from surplus areas. Consumers will pay less for flour because of the lower transportation costs involved in moving needed supplies from surplus areas. (*9*)

Advances in Equipment Fashions Mean Thoroughly Modern Milling

A lot of water has gone over the dam since water-powered grist mills were used some 100 years ago.

And many modifications have been made in batch mixing systems since the forerunner of the first pushbutton mill was built in 1927.

In 1940, pneumatic equipment for handling feeds was introduced. By the late 1940's, the term "push-button mill" began to appear in print as feed mills were introduced to automation.

Another breakthrough in feed manufacturing has shown up in the 1960's—a fully automated plant that requires little labor all the way from unloading raw materials to loading out finished feeds.

Designers of this system—which uses continuous proportioning and mixing equipment—claim that capital investment is reduced by 35 percent. In-plant labor, maintenance, and power

HOW LOWER RATES FOR MOVING WHEAT MIGHT SHIFT LOCATION OF U.S. MILLING

Region	Existing capacity		Expected milling requirements under lower rates		
	1,000 cwt.	*Percent*	*1,000 cwt.*	*Percent*	*Change in capacity*
North Atlantic	41,818	12.7	60,731	22.3	+18,913
South Atlantic	17,490	5.3	29,265	10.8	+11,775
East North Central	51,771	15.8	46,182	17.0	— 5,589
West North Central	128,934	39.2	65,119	23.9	—63,815
East South Central	14,229	4.3	9,127	3.3	— 5,102
West South Central	24,961	7.6	19,387	7.1	— 5,574
Mountain	15,096	4.6	9,922	3.7	— 5,174
Pacific	34,471	10.5	32,441	11.9	— 2,030

requirements are also reduced—sometimes as much as 50 percent.

The total process—including selecting, blending, mixing, grinding, and loading out—is programed in an electronically controlled system.

The plant receives and loads out in bulk only and this has been a great factor in its success. Sales are on a cash basis and limited to mash feeds.

Many equipment manufacturers have started turning out factory-assembled compact units that make up a "set" of feed manufacturing equipment. This reduces total equipment and installation costs since the unit comes complete with prefitted components.

One leading feed manufacturer has made a prefabricated grind and mix plant available to feed dealers.

With this unit, one man can produce up to 70 tons of finished feed per day. It includes the basic manufacturing equipment as well as the necessary working bins and conveyors.

It's delivered to the site in two sections and can be erected in about 5 days. The cost is less than the cost of a conventional horizontal custom mill.

Improved bulk handling systems in modern feed plants have reduced production labor requirements to a new low.

Pneumatic handling—moving bulk feed through an enclosed system by means of air pressure—allows the feed manufacturer to move the product through his plant more efficiently.

And it eliminates intermixing and contamination of materials. Explosion and fire hazards are reduced, and dust is eliminated—reducing air pollution problems.

Since the first bulk delivery about 20 years ago, plant facilities have been altered and simplified and delivery fleets, too, have changed.

Bulk trucks now cost up to $50,000 each—with $5.00 per hour in labor costs—so mill managers must maintain an efficient delivery system to realize the savings and efficiency possible in bulk handling.

Computerized scheduling of feed deliveries by some manufacturers has reduced the number of trucks required, lowered total delivery costs, and provided a more systematic delivery operation.

A new breakthrough in manufacturing and feeding—liquid feeds—has attracted much interest in recent years. Among their advantages over dry feeds, they require less expensive ingredients and equipment to manufacture and are also easier to handle.

Liquids will not replace dry feeds completely. And they may complicate things for the feed manufacturer, since he may have to ask the customer, "Dry feed, liquid feed, or dry feed fortified with liquid supplement?" (*10*)

Chic Broilers

By the tub, barrel, box, or basket, increasing numbers of broiler chickens make their debut as southern-fried carry-outs.

It's estimated that about 10 percent of total broiler output now meets the public this way—and more are expected to be coming out in the future.

The carry-out market demands uniform quality and weights within a narrow range—2.5 to 2.75 pounds per bird.

While today's commercial buyers select to their specifications out of large flocks, the future may see whole operations devoted to growing broilers that fit carry-out specifications.

This could slow or even halt the trend toward marketing broilers at heavier weights.

Prices will probably also be affected, since many carry-outs are franchised by large chains which will make large volume purchases.

For these large-scale buyers, relatively stable prices are highly desirable and this could bring more contract buying. (*11*)

Gulf Coast Ports Top Others In Export Volume of U.S. Grains

Much of the grain that's exported from the United States begins its journey in the heartland of the country.

Which direction it takes depends not only on where it's ultimately going, but on the overland freight rates to ports of embarkation.

Overland rail rates in 1968 from Minneapolis to Chicago or Duluth-Superior were $5.50 and $2.20 per ton, respectively, compared with $8.20 per ton to the Atlantic Coast.

The rail rate from Minneapolis to New Orleans is the same as that to the Atlantic Coast. This would seemingly make New Orleans a less advantageous outlet than Atlantic Coast ports, which have lower vessel rates to Northern Europe.

But there's another factor involved.

The barge rate from Minneapolis to New Orleans in 1968 was $4.63—about three-fifths of the rail rate—giving New Orleans an overall cost advantage over the Atlantic ports.

Ocean freight rates also determine which ports get the export business.

While one port area may have relatively high inland rates, it may have an advantage in ocean rates to various foreign destinations.

The advantageous combination of overland and ocean rates led 62 percent of our outbound grain and soybeans to Gulf ports for export in 1968. This volume represented nearly three-fourths of total soybean exports, two-thirds of the feed grains, and half the wheat.

In second place, the Great Lakes ports handled 15 percent—mostly soybeans.

Pacific ports accounted for 13 percent of the grain exports—predominantly wheat. (*12*)

Louisiana Shrub in a Tub May Be Worth Two in a Nursery Bed

Chances are that if you go out to a nursery these days to buy a new boxwood or camellia, you won't bring it home in a burlap bag—especially if you're in Louisiana.

Less than half of the nursery sales in Louisiana were for balled and burlapped plants in 1965, according to a recent ERS survey of 19 nurseries in the State.

Increasing labor costs and a shrinking pool of skilled nursery labor are forcing some changes in the business.

And a new thing in nurseries is containerization—especially for smaller varieties.

Plants grown and marketed in containers permit more automated production. Irrigation and fertilization can be controlled by one man and the enclosed growing spaces almost eliminate any weed problem.

About 30 percent of total nursery stock sales were containerized in 1965. By 1970, Louisiana nurserymen expect container sales to show a rise of 67 percent.

Producers of woody ornamentals–evergreen and deciduous bushes and shade trees—had a $1.5 million business in Louisiana in 1965.

Broadleaf evergreens—rhododendron, holly, and boxwood—were far and away the most popular, accounting for almost 90 percent of sales.

Louisiana nurseries don't make many local sales. Most of them sell to retailers in major southern cities. Houston alone took delivery on about 15 percent of the Louisiana sales in 1965.

Production of woody ornamentals increased 55 percent between 1960 and 1965 and has continued to rise, though at a somewhat slower rate.

Unfortunately, nursery acreage and output is expanding at a faster rate than sales—which suggests some marketing problems.

Aside from the labor shortage, the Louisiana nurseryman faces other problems.

Weather is one, as it is for all people who deal in growing things. A dry spell doesn't do much damage if irrigation is possible. But plants in southern nurseries are vulnerable to a quick freeze—especially those growing in containers, which often don't afford much protection against sudden changes in temperature.

Many of the nursery owners interviewed said that they were turning to more hardy, freeze-resistant plants—and that seems to be what their customers want.

Timing is another problem. It generally takes at least 2 years for a crop of nursery shrubs and trees to reach the minimum salable size. So nurserymen have to be able to estimate future demand pretty closely.

And almost half of the nurserymen indicated that they had insufficient market information to really plan ahead efficiently.

Pricing policy is a third complication.

Few of the nurseries have any set pricing system. There is no standardized pricing or grading system for nursery plants. Most sell by quality or grade (as measured by plant size) or in line with prices set by larger firms.

The Louisiana nurseryman and his customers—and their counterparts in other States—would probably benefit from more research and more information about growing and marketing nursery products. (*14*)

Sanitary Regulations That Overlap Can Be Costly to Milk Industry

A safe and sanitary milk supply hasn't always been the sure thing that it is in this country today.

Forty years ago it was something of a problem. Should pasteurization be compulsory everywhere as it was in most big cities? What kind of sanitary requirements should farmers supplying fluid milk markets be required to meet?

Back then, most milk plants made deliveries over a very small area and questions like this could be handled locally.

But today better roads and refrigerated trucks make it possible to move milk further for sale. And in many cases this has made for duplication of sanitary regulation and inspection.

Fluid milk that is sold commercially in the United States gets inspected at its point of origin. However, local ordinances often require that processing plants be inspected again by authorities representing the market in which the milk is to be sold. And this can be costly.

Data from a recent ERS survey indicates that duplication of sanitary regulation and inspection costs the dairy industry—milk processors and distributors, farmers, and cooperatives—perhaps $1 million a year. And substantial amounts in tax funds go to support duplicate regulation and inspection.

Fees charged by sanitary authorities vary widely. In some jurisdictions the cost of regulation is covered largely out of taxes. In other areas the costs are met with fees charged fluid milk plants or farmers.

Total plant inspection fees paid by fluid milk plants ranged from zero in Arizona and Mississippi to $687,000 in Ohio—according to the ERS study.

Total fees paid were less than $1,000 in 13 States and over $100,000 in nine States.

To measure duplication, ERS tallied the fees paid to sanitary authorities other than those of the primary jurisdiction supervising the milk plant.

On this basis, 68 percent of the fees paid for duplicate regulation and inspection were paid by milk plants in seven States—Ohio, Pennsylvania, Texas, Minnesota, Missouri, Wisconsin, and Oklahoma.

Not all the fees paid by these plants went to other jurisdictions within the same State. Plants with interstate business often pay fees in several different States.

The adoption of the U.S. Public Health Service model milk ordinance and the Interstate Milk Shippers program about 10 years ago alleviated some duplication in inspections and regulations. But some still exists.

As milk plants widen their areas of distribution, duplication costs can be expected to increase further, unless a principle of a single inspection authority for each plant can be recognized.

A few States have adopted legislation which places the authority for sanitary regulation of milk plants and supplies entirely in one State agency—eliminating duplication within the State.

Also interstate reciprocity between sanitation authorities is becoming more usual. (*15*)

Coordinated Handling Can Cope With Up-and-Down Milk Demand

A milk plant with too much milk has problems—but so does one that comes up short and can't meet demand.

The demand for milk fluctuates greatly during any given week. And to cope with these ups and downs, local handlers have to keep a reserve supply.

It's not easy for a single plant or handler to strike a desirable balance between daily supply and demand.

Recent ERS studies, however, indicate that handlers with central coordination within an area can together achieve timeliness of supply by adjusting the overall flow of milk through the assembly-processing-storage complex.

A centrally coordinated supply could satisfy a specified level of demand with a lower ratio of reserve supplies than would be possible otherwise.

The coordination of supplies could reduce fixed costs and supply-demand uncertainties and give individual firms greater flexibility in adjusting volume, product mix, methodology, and technology.

Excess supplies would still show up, but on a smaller scale. Handlers would be made aware of averages and could use a central plant to process the surplus into such products as butter and powder at less cost than could each handler operating alone.

Most of the savings from central supply coordination wouldn't show up on the books of an individual firm. Economies would add up through random averaging out of the overall savings that would follow market coordination of milk flow and excess—or short—supply.

And potential savings, of course, would be dependent upon the degree of participation by those milk handling firms in the local marketplace. (*16*)

More farm power and not so many hands would be helpful in pulling Colombia out of the agricultural rut that's slowed down progress. Meanwhile, nearby Brazil eyes export potentials of corn and rice.

Emeralds and potatoes. Gold and rice. Salt and coffee.

Such is the diversity of products yielded by Colombia's generous land. This land, touching two oceans, combines the physical aspects of our Appalachian region, California, and Texas–and is about as large in area.

Yet Colombia is on an agricultural treadmill.

For the past two decades, it has moved neither backward nor forward from its halfway position among the developing countries of the world.

Its rate of population growth has been one of the highest—now averaging over 3 percent annually. But unlike countries behind it on the agricultural production line, there has been no deterioration in food output per capita.

Neither has there been any increase in production per person, as there has been in some other nations that have moved ahead of Colombia in economic development.

Average crop yields for the most part have shown rather limited advances. Most of the rise in total production has been due to an increase in cultivated acreage.

Demand for food and other farm products has also been fairly stationary, since per capita income has advanced very little in recent years.

Yet Colombia badly needs to accelerate its agricultural production.

Among the reasons:

—Nutritional standards are a bit on the low side when calories are counted, and quite low in animal protein.

—Prospects for increasing national income through exports of

farm products are better than the limited export possibilities for industrial items.

If Colombia is to quicken the pace of agricultural modernization so that the peasants will be included, it will have to find the answer to three big problems:

How can small farms be provided with adequate power?

How can labor-saving and capital-saving practices be adapted to a country that has an overabundance of manpower and an acute shortage of capital?

And how much of the advanced agricultural technology of other countries is transferable to a developing nation like Colombia?

The power problem. Most Colombian farmers rely on themselves, their short-handled hoes, and their oxen for farm power.

Most of their holdings are uneconomically small—2 to 3 hectares (about 5 to 7 acres). This is about as much cropland as the Colombian farmer can handle without mechanization. Yet it's estimated that one man with an average size tractor can plow and cultivate as much land as 6 to 10 men with 12 to 20 oxen.

The best possibility for breaking the 5-hectare limit for crops seems to be the use of a tractor for several farms—either through individual arrangements or through government programs.

Colombia has been trying to do this. After World War II it was a Latin American leader in mechanization. The practice of custom plowing is still increasing. But the number of farmers without mechanical power is also increasing, and Colombia is now behind most of its neighbors when it comes to machine power on the farm.

Labor versus capital. Long on labor and short on capital, Colombia favors any form of capital savings.

Most of its farming practices tend to do this. Even the use of improved seed is no problem, as it takes little foreign exchange and no protection is needed for development of an infant industry. However, the situation is just the reverse for fertilizers and chemicals.

The case for tractors and mechanization is less clear-cut. Mechanization without expansion in acreage would displace workers in large numbers. To date, the increase in tractors has been associated more with expansion of cultivated acreage—especially for cotton, rice, and sugarcane—than with substitution for oxen and hand labor.

No sharp deviation from this pattern seems likely at this time. But the relative advantage for tractors is growing, as the cost for plowing by tractor is often cheaper than by oxen or hand tools on land well adapted to mechanization.

How transferable is technology? It's not easy to move modern farming methods from one country to another, or to duplicate them—as Colombia's experience shows.

Climate, especially, may inhibit direct transfer of know-how from temperate-zone developed countries to tropical developing nations.

Disease and pest problems, too, may necessitate shifts in areas of cultivation. And new starts and shifts are often rather abrupt, with rapid expansions and declines in the often widely separated experimenting regions.

In some cases (cotton, for one, in Colombia) the first attempt to transfer technology from abroad failed, as did second and third attempts. But Colombia has now effected fairly definite technological shifts for cotton, rice, poultry and eggs—and minor crops such as soybeans, sesame, and grain sorghums.

This has been done with relatively little adaptation or development of new varieties and production techniques, except for rice.

Colombia has, however, made one notable production change that has diminished its gains from technological transfers:

It has cut back, and often omitted, use of fertilizer. Why, isn't clear. Soil conditions, relationships between fertilizer prices and crop prices, and availability of dependable quality fertilizer no doubt are factors.

Nevertheless, yields have still been good by Colombian standards. They have far outstripped yields by old methods. Sometimes they have approached yields in developed nations. But in the past 6 to 9 years, cotton and rice yields have advanced only slightly, while those in developed countries have shot up sharply.

Poultry and eggs are one outstanding success story. Introduction of improved breeds has been accompanied by high standards of production—though the total output is still low. Moderately higher feed costs are offset by lower labor costs, and production efficiencies are said to equal ours.

Modern technology has not been so easily imported for other livestock and livestock products, nor for wheat and corn. These commodities have been the focus of intensive research and technical development programs. But results have not yet been translated into terms actually meaningful for Colombia. (*17*)

IN BRAZIL:

All the coffee in Brazil can no longer sustain the country's economy or provide the export earnings it needs for growth.

Other traditional export crops —such as sugar and cocoa—have limited export earning potentials. And while Brazil's fast growing industrial sector has been filling the local market with consumer goods and reducing import needs, its export earnings don't suffice.

Brazil is therefore turning its attention to corn and rice, among other things, as exportable hopefuls that might be exploited.

Both corn and rice are grown in Brazil at relatively low cost. The two cereals already account for about 40 percent of Brazil's crop area.

Production has expanded over a number of years at a rate more or less paralleling growth of domestic demand. In most years since 1960, harvests of corn and rice have also been big enough to allow some exports of each, but they have seldom exceeded 5 percent of production.

Export volume has been highly erratic. In 1960, 1962, and 1964, combined exports of corn and rice were under 100,000 metric tons, or less than 4 million bushels. In 1968, exports of corn alone jumped to a record of about 1-1/4 million tons, or 49 million bushels. This was 10 percent of the 1968 bumper corn harvest.

The production and export trend for corn is indicated below (exports are for calendar years, and 1968-69 figures are preliminary estimates):

Crop year	*Production*	*Exports*
	Million bushels	
1960-64 av.	398	6
1966	448	24
1967	491	20
1968	490	49
1969	453	—

It appears to ERS economists that Brazil could increase its exports of corn by 1975/76 to an annual rate of 1-1/2 million metric tons (a little over 59 million bushels). And rice exports could be raised to 800,000 metric tons (about 31-1/2 million bushels). At the same time it will of course be necessary to raise overall farm output to meet rising domestic needs.

The corn export projection for 1975/76 implies a production gain of 54 percent over 1965/66 (based on increases of 33 percent in acreage and 15 percent in yield).

For rice, the gain would be 56 percent (based on increases of 41 percent in plantings and 10 percent in yield).

These projected gains in production and exports are "reasonable." But the extent that they are "realizable" will depend largely on public policies that are adopted to maintain minimum prices, reduce costs of inputs, extend production credit, improve marketing facilities, support research and extension activities, and improve nutrition.

Decisions affecting any one or a combination of these interrelated factors could change the realizability of projections for corn and rice—and the agricultural picture as a whole.

What would happen, for example, if Brazil subsidized a national program (along the lines of our Food Stamp Program) to help low-income families upgrade their food consumption?

Agricultural output would have to be upped rapidly to meet increased demand for food products in general—including rice, as well as the dairy, poultry, and pork products that involve corn for livestock feeding.

In such a situation, local market prices would probably rise high enough to preclude exports—unless the government provided massive, expensive, and direct assistance to agiculture.

Even without a food subsidy program, heavier demand for livestock products could restrict the availability of corn for export though total production might be above the projected level.

A choice in this case would have to be made between abandonment of exports, finding some way to boost corn output even higher, limiting its consumption —or perhaps increasing grain sorghum production. (*18*)

More Wheat Dishes, Less Rice, Appearing on Ceylonese Tables

Eating habits are changing in Ceylon. Rice is being supplanted by noodles, bakery goods, and other wheat flour products.

High rice costs and the availability and low price of wheat flour account partly for the change. Also, new factories and construction have brought a rise in per capita income and thus stepped up demand for food.

In addition, the government changed its policy on rice rations in 1966. It reduced weekly allotments to ration card holders from 4 pounds at a low cost to 2 pounds at no charge. This resulted in greater demand, and therefore higher prices, for domestic rice and caused a rapid shift to wheat flour products. The cost in foreign exchange for rice imports was reduced, and the expense of the free rice rations was offset by profits from the sale of wheat flour and sugar.

More wheat product dishes on family tables were other more tangible results. (*19*)

GRAIN FOR JAPAN: 1985

Japan is the first Asian country to reach Western levels of economic development. But this doesn't mean that its future development will necessarily follow Western patterns.

Japan's food consumption per person today is the lowest of any comparably developed country, and Japan has a wide range of choice in determining future consumption levels. The development path it chooses will have a great impact on its foreign agricultural trade.

Imports of food and feed in 1966, at $2.0 billion, were more than triple the value in 1957. Of the 1966 total, 40 percent was from the United States. During that year, grains and their products—the basis of many foods—were about 42 percent of these food and feed imports, by value, and comprised the largest commodity group.

Trade and development are highly interdependent in Japan's food sector, and government policies—toward imports as well as domestic agriculture—affect the flow of grain and other foodstuffs.

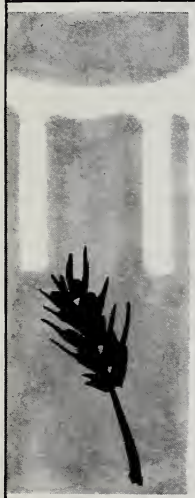
These policies could blend into any one of several scenarios for future trading patterns. ERS has suggested possibilities for three.

The Western Food Strategy would envision the Japan of the future as a highly efficient processor of imported raw materials and exporter of finished products, well integrated into a liberal world economy.

An objective of the Pacific Food Strategy would be to maximize trade with East-Southeast Asia and the southern Pacific basin in line with an image of Japan as the area's leading political and economic power.

The Eastern Food Strategy—more insular—would see Japan as an economic engine running mainly on internal, not external, power.

The scripts for each of these possible futures are outlined in the table below, matched to alternative targets for Japan's grain import dependency in 1985. (*20*)



WESTERN FOOD STRATEGY

—Speed expansion in livestock production.
—Step up feed grain imports.
—Encourage farming on a larger scale.
—Stabilize producer prices, raise consumer prices for rice.
—Balance food use of rice and wheat.
—Boost sugar imports and consumption.
—Keep meat prices under those for fish.
—Expand fruit and vegetable production slightly.
—Hold down investment in food processing and marketing.

PACIFIC FOOD STRATEGY

—Expand livestock production and feed grain imports slowly.
—Invest in corn and sorghum production in Southeast Asia and give preference to grain from this area.
—Boost imports of meat and livestock products from Pacific countries.
—Increase output of fish and fish products.
—Establish free trade in rice and increase rice imports.
—Hold down imports of wheat.
—Encourage processing and marketing services in food products.

EASTERN FOOD STRATEGY

—Expand livestock production slowly.
—Look to Southeast Asia for corn and sorghum but not as much as in Pacific strategy.
—Sharply expand output of fish and products, emphasizing fish protein concentrate.
—Retain trade barriers against imports of processed foods.
—Expand fruit and vegetable production rapidly.
—Maximize domestic rice production.
—Control wheat imports.
—Step up food processing and marketing.

Grain: 1985	Domestic	Imported	Domestic	Imported	Domestic	Imported
	Million metric tons		*Million metric tons*		*Million metric tons*	
Rice	6.1	.6	9.4	2.7	10.9	.8
Wheat	.5	6.7	.9	3.0	.7	4.3
Feed grains	1.3	40.8	1.5	17.0	1.4	12.4

Assisted Exports Now a Smaller Part of Our Dollar Sales Abroad

Export payment assistance to U.S. traders amounted to an estimated $106.6 million in fiscal 1968. A year earlier it was $252.2 million.

Smaller average payments on wheat and products and the movement of more wheat without payments accounted for over half of the reduction.

In fiscal 1968, only about 13 percent of total U.S. commercial exports were assisted by export payments. The proportion was 27 percent in fiscal 1961.

U.S. export payment programs are designed and administered to assure equitable shares of world trade for U.S. commodities. For the major commodities which receive export payments, price supports and production adjustment programs are in effect.

A limited number of agricultural commodities cannot compete in foreign markets without some form of compensation to the exporter who buys at the higher domestic price and sells in foreign markets at a lower price.

Minimum resort to export payments has been a guiding principle in the design of U.S. price support programs.

One consideration in the formulation of the U.S. wheat, feed grain, and upland cotton programs was to set price support loan levels on these commodities at or near competitive world prices. A similar program for extra-long staple cotton was enacted in August 1968.

Since fiscal 1961, export payments have been discontinued on feed grains and rye, upland cotton, flaxseed, linseed oil, and dairy products (except for a limited program for nonfat dry milk begun in fiscal 1968).

Payment assistance was extended in fiscal 1968 to only two major U.S. farm exports—tobacco and wheat.

About 496 million pounds of tobacco—nearly 90 percent of total tobacco exports—were covered by export payments in fiscal 1968.

Export payments on wheat grain were made on 484.5 million bushels in fiscal 1968–or more than 70 percent of total wheat exports (excluding donations).

When the International Grains Arrangement was ratified by the U.S. Senate last June, the Department of Agriculture took action, where necessary, to bring export prices up to the higher minimums set forth in the Wheat Trade Convention.

Now when the U.S. price is less than the trading floor provided in the Convention, U.S. exporters are required to purchase an export marketing certificate reflecting the amount needed to bring the domestic price up to the world minimum level.

The cost is ultimately borne by the importer. When the U.S. price is higher than the world level, exporters receive an export payment in the amount needed to make U.S. wheat competitive in world markets. (*21*)

FARM OUTPUT RISES WORLDWIDE. Total agricultural production in both developed and less developed countries reached new high levels in 1968, according to indices revised this March to accord with 1968 harvest estimates. Per capita output in developed countries rose to 118 percent of the 1957-1959 level; in less developed areas it has not changed much. (22)

Area	Total					Per person				
	1964	1965	1966	1967	1968	1964	1965	1966	1967	1968
	1957-59=100									
Developed										
United States	112	115	114	118	120	102	103	101	104	104
Canada	118	128	145	125	133	105	112	124	105	109
Western Europe	116	119	120	129	131	110	111	111	119	120
Eastern Europe	115	116	127	130	130	110	110	120	122	121
USSR	122	116	137	134	143	111	104	121	118	124
Japan	116	117	120	130	131	110	109	111	119	119
South Africa, Rep. of	115	118	124	159	138	100	100	103	129	109
Australia and New Zealand	127	121	136	127	147	112	105	116	106	120
Total	117	117	125	127	132	109	107	114	114	118
(Total, excl. U.S.)	(118)	(118)	(129)	(131)	(136)	(110)	(109)	(118)	(119)	(122)
Less developed										
Latin America [1]	115	128	123	130	129	97	105	98	101	97
South Asia [2]	120	111	109	127	132	104	94	90	103	104
East Asia [3]	126	128	136	134	140	108	106	110	106	108
West Asia	120	122	127	137	139	102	101	102	107	106
Africa	120	119	119	122	124	104	101	99	99	98
Total	119	121	119	129	131	102	102	97	103	102
World (excl. Communist Asia)	118	118	123	128	131	105	103	105	107	108

[1] Excludes Cuba, Guyana, Jamaica and Trinidad-Tobago. [2] Ceylon, India, and Pakistan. [3] Burma, Cambodia, Indonesia, South Korea, West Malaysia, Philippines, Taiwan, Thailand, South Vietnam.

Here's a look at some changes in our food consumption patterns since the late 1940's—and some of the reasons why menus have undergone this transformation.

Shoppers lug a lot of food home from the grocery store in the course of a year.

The total is over 1,400 pounds for each person in the family. Yet the load is about 100 pounds lighter than it was in the late 1940's—partly because of increases in food processing, partly because of changes in consumer tastes.

We're eating more processed food today. Some of these, such as frozen orange juice and instant coffee, are lighter than their fresh counterparts. And we've reduced our consumption of bulky foods, such as cereals and potatoes, which used to add a good deal of weight to the grocery bags.

Here's a look at some of the broad changes in our food consumption patterns during the past two decades—and some of the reasons for these changes.

Meats. Last year per capita consumption of meats totaled nearly 162 pounds, up almost a fifth from 1948. Beef use sparked the rise. Per person, we ate more than 81 pounds (retail weight) of beef last year—or two-thirds more than in 1948. But we ate less pork, lamb and mutton, and veal than two decades ago.

Beef's dramatic rise is due mainly to the consumer's preference. And his rising purchasing power enables him to indulge his preference. (Prices for beef have risen over the past two decades, but no more than for pork and much less than for many other foods.)

Poultry and eggs. Poultry consumption, too, is heftier than it used to be. Prices previously limited chicken pretty much to Sunday dinner, turkey to Thanksgiving and Christmas. But no more. Mass production of birds that have become increasingly efficient feed users has enabled producers to supply these foods at much lower prices than before. As a result, per capita poultry consumption, at 44 pounds, is now more than double what it was in 1948.

We aren't the "eggheads" we used to be, however. The popularity of the egg has declined along with the traditional American breakfast. Nowadays toast and coffee satisfies many adults, while kids make do with cereal and milk.

Declining prices for eggs and rising prices for prepared cereals have not stemmed this tide. Today our per person egg consumption stands at about 40 pounds a year, down about 15 percent from 1948.

Dairy products. Use of most dairy products has gone the same way as eggs. These foods appear to have lost "image" because of association with health problems, even though they contribute important elements to American diets.

Rising prices, too, have probably contributed to some of the drop in our dairy product consumption. Retail prices for dairy

products have risen more than those for most other foods in the past two decades.

Per capita use of fluid milk and cream in 1968 was more than a tenth less than in 1948, while butter usage had dropped close to one-half. But we're eating more cheese and frozen dairy products today than we used to.

Stepped-up use of margarine has counterbalanced the decline for butter. Nondairy products have taken a growing part of the market for cream, and in the process enlarged the total market for coffee creamers and whipped toppings. More recently, substitute products, such as filled milk, have taken a small but increasing segment of the market for fluid whole milk.

Fats and oils. Consumption of cooking and salad oils has risen in the past two decades, along with the growing preference for vegetable oils and the increasing popularity of salads in the American diet. Direct use of lard has fallen off, but its indirect use as an ingredient in shortening and other products has increased.

Fruits and vegetables. More processed products, fewer fresh, is the story of our per capita fruit and vegetable consumption.

Led by frozen vegetables and citrus concentrates, our per capita use of processed produce has been on the upswing since '48, while our appetite for fresh products has flagged.

Fresh produce is often high quality but costly. Prices for fresh fruits and vegetables have gone up even faster than for processed products—and the latter have risen in price more than most other foods. Increased convenience and variety also have added to the consumer's preference for processed items.

Potatoes and sweetpotatoes. The long term decline in our use of potatoes apparently was halted in the 1950's. Consumption of fresh potatoes is still falling, but consumers are more than making up for this by buying larger quantities of processed products —such as chips, dehydrated potato products, and frozen french fries.

Cereals. Use of wheat flour in all consumer products continues to drop about 1 pound per person per year. But we've been upping our eating of rice and corn food products, particularly during the 1960's.

Much more corn is used in making corn syrup and corn sugar than previously. Most of the corn sweeteners go into candy and other processed products. Corn used in breakfast cereals is also on the upswing, but cornmeal consumption has declined along with the drop in home baking.

Part of the overall decline in use of cereal and bakery products has been a reaction to the rapid and persistent rise in prices for these products.

Ingredient costs have remained low (they make up only about a fifth of the total cost of the finished product), but marketing costs are up markedly. In addition, consumers seem to prefer other types of foods as incomes rise and the need for calories diminishes.

Sugars and sweeteners. Our Nation's sweet tooth isn't much sweeter than two decades ago. Per capita consumption of sugar in all food products has remained essentially stable.

The growing use of corn sweeteners and the rising popularity of noncaloric sweeteners have added to the total market. Soft drinks provide the largest outlet for noncaloric sweeteners, and weight-watchers have sharply

SHOPPERS' FOOD LOAD LIGHTENED IN THE COURSE OF TWO DECADES

Foods	Per capita consumption		
	1948	1968	Change 1948-68
	Pounds [1]		*Percent*
Meat	138.4	161.9	+ 17
Beef	49.8	81.1	+ 63
Veal	8.6	2.9	− 66
Pork	63.1	61.1	− 3
Lamb and mutton	4.5	3.4	− 24
Poultry	21.8	45.2	+109
Fish	13.1	14.1	+ 8
Eggs	47.8	40.5	− 15
Dairy products	407	364	− 11
Fluid milk and cream	344	304	− 12
Butter	10.0	5.6	− 44
Cheese	6.9	10.6	+ 54
Frozen products	19.9	28.7	+ 44
Fats and oils [2]	35.7	47.1	+ 32
Fruits			
Fresh	127.9	76.8	− 40
Processed	42.9	51.4	+ 20
Vegetables			
Fresh	186.8	139.3	− 25
Processed	40.3	58.5	+ 45
Potatoes and sweetpotatoes	113.8	105.2	− 8
Beans, peas, and nuts	17.4	16.2	− 7
Flour and cereal	170	140	− 18
Sugar and other sweeteners	106.4	114.1	+ 7
Coffee, tea, and cocoa	19.1	15.4	− 19
All foods	1,531	1,427	− 7

[1] Retail weight equivalent. [2] Other than butter.

pushed up the poundage of these products consumed. Over two-thirds of all types of sweeteners are in processed products.

Coffee. We are drinking less coffee—or at least using fewer beans—than in the late 1940's.

Part of the drop is due to the introduction of instant coffee during the 1950's. Instants now make up nearly one-fifth of total coffee consumption. Unlike instant teas, however, the coffees in recent years have no longer been making inroads into total use. But this may change with the introduction of the new freeze-dried instants.

Stronger and less costly African coffee beans, typically used in making instant coffee, have also been used more frequently in blends of regular coffee in recent years. (*23*)

Variable Pricing Offers Benefits For Shoppers as Well as Stores

Have you ever wondered why, when you're out to buy some of a supermarket's advertised specials, you have to cover the whole store to find them?

It's not poor planning on the part of the store manager. In fact, it's perfect planning from his point of view. Because while you're looking for bargains, you may add a few things to your shopping cart which offer him a greater profit margin.

Many large grocery stores use a tactic known as variable price merchandising when they set the prices for the goods they carry. What happens is this: When the prices of some commodities are marked down, others may be jacked up. Over time, the average price of any single item, and the average price level of all items in the store can remain the same, just as if no price changes had been made.

Variable pricing offers some advantages for both shoppers and stores. The alert customer, by shopping around, can find bargains and minimize expenditures. And the stores can maintain a reputation for price reductions without resorting to price wars —which could drive some establishments out of business.

To work, though, variable pricing demands that a store be big enough to stock a wide variety of products. That's why it's used more widely among chain and affiliate-type stores than by nonaffiliate or independent establishments.

Tobacco Taxes

Money spent on tobacco products doesn't all go up in smoke.

In fact, Federal, State, and municipal tobacco taxes claimed almost half of the nearly $10 billion consumers and business spent on tobacco products last year.

Excise taxes on cigarettes and other tobacco products contribute about 1½ percent of the Federal tax and nontax revenue. During most of the 1960's, Federal excise taxes have fluctuated between $2.0 and $2.2 billion annually.

State and municipal tobacco taxes have been rising sharply for most of this decade. Last year's tax total of $2.2 billion was double the figure for 1960. About 2 percent of State and local revenues come from tobacco taxes. (*25*)

Specialized stores, with only a few principal products, and the smaller affiliated independents with their own product lines, often have trouble with variable pricing.

They find it difficult to recover the profits foregone through price reductions by making larger sales of other items. In addition, the frequent price increases that are an integral part of variable price merchandising may become conspicuous, if not glaring, in smaller establishments that adopt the practice. (*24*)

Skimmed Milk Semisoft Cheese Passes Its Initial Market Test

"EUDA cheese. I've never heard of it."

Few people have. It's a name that was used in a store test of a skimmed milk semisoft cheese recently developed by USDA researchers. So far, it's been sold only on a test basis in four supermarkets, all in the suburbs of Washington, D.C.

EUDA has a bland but distinct flavor. Its big attraction, however, is that it is made from skimmed instead of whole milk and has a lower fat content than most other cheeses.

During the 13 weeks EUDA was on the market, sales averaged 143 pounds per week for all four stores combined.

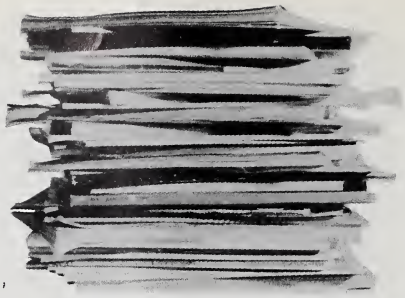
Sales of EUDA didn't appear to cut deeply into sales of most other cheeses included in the test. In fact, sales for three of the five types of cheese in the study increased at the time EUDA was being sold.

EUDA's debut was not announced in any of the advertising media, only by point-of-purchase materials throughout the test period and by an in-store demonstration during the last 3 days of the introductory week of the cheese's test.

The demonstrators obtained the names of 661 persons who bought the cheese that first week. Roughly 250 of those buyers were later interviewed by telephone.

Nearly three-fourths planned to buy more EUDA on a future shopping trip. A small number of these were persons who did not usually buy naturally ripened or processed types of cheese.

While EUDA's success in the Washington suburban area does not necessarily mean that it will be a nationwide success, test results indicated it might be a profitable sideline to an established commercial cheese producer's product line. (*26*)



RECENT PUBLICATIONS

The publications listed here are issued by the Economic Research Service and cooperatively by the State universities and colleges. Unless otherwise noted, reports listed here and under Sources *are published by ERS. Single copies are available free from The Farm Index, OMS, U.S. Department of Agriculture, Washington, D.C. 20250. State publications (descriptions below include name of experiment station or university after title) may be obtained only by writing to the issuing agencies of the respective States.*

DDT USED IN FARM PRODUCTION. T. Eichers, R. Jenkins, and A. Fox, Farm Production Economics Division. AER-158.

Though DDT is one of the most widely used insecticides in the United States and in the world, U.S. usage has been declining rapidly in recent years. This report shows extent of use by U.S. farmers and indicates trends in total U.S. production and overall use.

ECONOMIES OF SIZE OF ILLINOIS CASH-GRAIN AND HOG FARMS. R. N. Van Arsdall and W. A. Elder, Farm Production Economics Division, in cooperation with Illinois Agricultural Experiment Station. Ill. Agr. Expt. Sta. Bull. 733.

This study analyzes costs and returns of cash-grain and hog farming in Illinois as related to size of farm when capacity of management, size of field machinery, and size of the labor force are the chief factors restricting the size of the farming operation under study.

COST OF PRODUCTION BUDGETS FOR DRYLAND CROPS IN EASTERN WASHINGTON. N. K. Whittlesy and R.E. Oehlschlaeger, Washington Agricultural Experiment Station, in cooperation with the Farm Production Economics Division. Wash. Agr. Expt. Sta. Circular 501.

This publication presents detailed costs budgets for production of wheat, barley, rye, and peas in each of ten major producing regions of the State. Costs of production budgets were then calculated for each principal crop in each region.

LAND SALES, PRICES, VALUES, AND ASSESSED VALUES IN NEBRASKA, 1930–1968. J. Geer, Nebraska Agricultural Experiment Station, in cooperation with Farm Production Economics Division. Neb. Agr. Expt. Sta. S. B. 504.

The trend in sale prices of Nebraska farmland as traced from 1930 through 1965, shows the relationship between prices and assessed values of land sold and also estimates the land values by class of land.

THE ECONOMICS OF FARM PRODUCTS TRANSPORTATION. I. W. Ulrey, Marketing Economics Division. MRR-843.

Many reports have been written about the economics of transporting unmanufactured farm products from origin to destination by rail, truck, barge, or air. These reports dealt with only one or two modes of transportation; this report describes all four, but focuses mainly on rail, truck, barge, and combination truck-barge transport.

SYNTHETICS AND SUBSTITUTES FOR AGRICULTURAL PRODUCTS: A COMPENDIUM. Marketing Economics Division. Misc. Pub. 1141.

Agricultural producers, processors, and marketers are becoming increasingly concerned about the replacement of agricultural raw materials and products by synthetics. They are adjusting to this emerging market situation by altering their production patterns, processing methods, and marketing strategies. This report details some recent developments in this area.

Numbers in parentheses at end of stories refer to sources listed below:

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Speech (S); published report (P); unpublished manuscript (M); special material (SM); * **State publications may be obtained only by writing to the experiment station or university cited.**

ECONOMIC TRENDS

ITEM	UNIT OR BASE PERIOD	'57-'59 AVERAGE	1968		1969		
			YEAR	APRIL	FEBRUARY	MARCH	APRIL
Prices:							
Prices received by farmers	1910-14=100	242	260	259	267	272	270
Crops	1910-14=100	223	228	232	225	229	225
Livestock and products	1910-14=100	258	288	282	302	308	309
Prices paid, interest, taxes and wage rates	1910-14=100	293	354	353	365	369	372
Family living items	1910-14=100	286	335	333	344	347	349
Production items	1910-14=100	262	292	292	299	302	303
Parity ratio		83	73	73	73	74	73
Wholesale prices, all commodities	1957-59=100	—	108.7	108.3	111.1	111.7	111.9
Industrial commodities	1957-59=100	—	109.0	108.8	111.4	112.0	112.1
Farm products	1957-59=100	—	102.2	102.1	105.0	106.5	105.6
Processed foods and feeds	1957-59=100	—	114.1	112.8	116.3	116.4	117.5
Consumer price index, all items	1957-59=100	—	121.2	119.9	124.6	125.6	—
Food	1957-59=100	—	119.3	118.3	121.9	122.4	—
Farm Food Market Basket: [1]							
Retail cost	Dollars	983	1,118	1,110	1,136	1,141	—
Farm value	Dollars	388	435	439	452	460	—
Farm-retail spread	Dollars	595	683	671	684	681	—
Farmers' share of retail cost	Percent	39	39	40	40	40	—
Farm Income: [2]							
Volume of farm marketings	1957-59=100	—	126	91	98	100	94
Cash receipts from farm marketings	Million dollars	32,247	44,065	2,846	3,044	3,180	3,100
Crops	Million dollars	13,766	18,424	812	997	999	900
Livestock and products	Million dollars	18,481	25,641	2,034	2,047	2,181	2,200
Realized gross income [3]	Billion dollars	—	[4]50.8	—	—	51.8	—
Farm production expenses [3]	Billion dollars	—	[4]35.9	—	—	37.0	—
Realized net income [3]	Billion dollars	—	[4]14.9	—	—	14.8	—
Agricultural Trade:							
Agricultural exports	Million dollars	4,105	[4]6,228	524	240	517	—
Agricultural imports	Million dollars	3,977	[4]5,028	439	316	475	—
Land Values:							
Average value per acre	1957-59=100	—	—	[5]170	[6]116	179	—
Total value of farm real estate	Billion dollars	—	—	[5]193.7	[6]200.6	—	—
Gross National Product: [3]	Billion dollars	457.3	860.6	—	—	903.3	—
Consumption [3]	Billion dollars	294.2	533.8	—	—	557.4	—
Investment [3]	Billion dollars	68.0	127.7	—	—	139.0	—
Government expenditures [3]	Billion dollars	92.4	197.2	—	—	206.9	—
Net exports [3]	Billion dollars	2.7	2.0	—	—	0	—
Income and Spending: [7]							
Personal income, annual rate	Billion dollars	365.3	685.8	672.6	721.2	727.7	730.5
Total retail sales, monthly rate	Million dollars	17,098	28,309	27,791	29,289	28,998	29,419
Retail sales of food group, monthly rate	Million dollars	4,160	6,106	6,063	6,346	6,317	—
Employment and Wages: [7]							
Total civilian employment	Millions	63.9	75.9	75.7	77.7	77.8	77.6
Agricultural	Millions	5.7	3.8	3.9	3.9	3.7	3.7
Rate of unemployment	Percent	5.8	3.6	3.5	3.3	3.4	3.5
Workweek in manufacturing	Hours	39.8	40.7	40.1	40.2	40.8	40.7
Hourly earnings in manufacturing, unadjusted	Dollars	2.12	3.01	2.97	3.12	3.13	3.14
Industrial Production: [7]	1957-59=100	—	165	163	170	171	172
Manufacturers' Shipments and Inventories: [7]							
Total shipments, monthly rate	Million dollars	28,745	50,310	48,755	53,302	52,929	—
Total inventories, book value end of month	Million dollars	51,549	88,579	84,382	89,556	90,262	—
Total new orders, monthly rate	Million dollars	28,365	50,597	49,237	53,901	53,248	—

[1] Average annual quantities of farm food products purchased by urban wage-earner and clerical-worker households (including those of single workers living alone) in 1959-61—estimated monthly. [2] Annual and quarterly data are on 50-State basis. [3] Annual rates seasonally adjusted first quarter. [4] Preliminary. [5] As of November 1, 1967. [6] As of November 1, 1968. [7] Seasonally adjusted.

Sources: U.S. Dept. of Agriculture (Farm Income Situation, Marketing and Transportation Situation, Agricultural Prices, Foreign Agricultural Trade and Farm Real Estate Market Developments); U.S. Dept. of Commerce (Current Industrial Reports, Business News Reports, Advance Retail Sales Report and Survey of Current Business); and U.S. Dept. of Labor (The Labor Force and Wholesale Price Index).

Unpaid Spot Announcement

"We had a wonderful time there last year. The fishing was great, the scenery gorgeous. Only trouble was we couldn't stay long enough."

This recommendation, delivered off the cuff by a satisfied customer, can usually do more for a recreation operator's business than paid advertising.

According to a recent study, more than half the vacationists staying at private resorts in Wisconsin were steered to their destinations by friends or family members who'd been there before them.

No other form of advertising carried nearly as much weight, or generated nearly as much business, as the word-of-mouth recommendation.

Of course, getting enough customers to spread the word around poses a problem for the newcomer to the recreation business. His only option at the outset may be the traditional advertising media —ads and articles in newspapers and magazines, colorful brochures, radio spots, billboards and so forth.

But an attractive resort can be an advertisement for itself. About 6 percent of the Wisconsin resort vacationers "just drove in" on the basis of their first impression. And that was as good or better than the response generated by most other types of publicity.

Once customers are coming, the smart resort operator will concentrate on keeping them happy. For satisfied customers aren't merely good ads. They're repeat business as well. (*27*)

THE FARM INDEX

Contents *page*

THE FARM. *Making It in Mink—Sales of this furry favorite top the sheep and lamb gross in Minnesota.* 3

RURAL LIFE. *Can the Family Farm Compete?—Family farming is still a going and growing institution.* 6

MARKETING. *Whither the Miller?—The pattern of U.S. flour milling depends a lot on freight rates.* 9

THE FOREIGN SCENE. *Bogotá and Brasília: Farm Policy Problems—Planners are long on labor, lack capital.* 14

THE CONSUMER. *Our Menu's Metamorphosis—The U.S. eating pattern has changed a lot since the 1940's.* 19

Numbers in parentheses at end of stories refer to sources listed at end of issue.

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